### Lesson 15 Practice Problems

1. A right cone has a base with diameter 10 units. The volume of the cone is $100π$ cubic units. What is the length of a segment drawn from the apex to the edge of the circular base?
2. A right pyramid has a square base with sides of length 10 units. Each segment connecting the apex to a midpoint of a side of the base has length 13 units. What is the volume of the pyramid?
3. For each pair of solids, determine if their volumes are the same or different. If the volumes are different, identify the solid with the greatest volume. Explain your reasoning.
	1. A prism and a pyramid have the same height. The pyramid’s base has 3 times the area of the prism's base.
	2. A pyramid and a cylinder have bases with the same area. The cylinder’s height is 3 times that of the pyramid.
	3. A cone and a cylinder have the same height. The cone’s radius is 3 times the length of the cylinder’s radius.
4. A pyramid has a height of 8 inches and a volume of 120 cubic inches. Determine 2 possible shapes, with dimensions, for the base.
* (From Unit 5, Lesson 14.)
1. A toy company packages modeling clay in the shape of a rectangular prism with dimensions 6 inches by 1 inch by $\frac{1}{2}$ inch. They want to change the shape to a rectangular pyramid that uses the same amount of clay. Determine 2 sets of possible dimensions for the pyramid.
* (From Unit 5, Lesson 14.)
1. These 3 congruent square pyramids can be assembled into a cube with side length 2 feet. What is the volume of each pyramid?
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* (From Unit 5, Lesson 12.)
1. A monster truck wheel has an area of $324π$ square inches. A toy company wants to create a scaled copy of the monster truck with a wheel area of $9π$ square inches. What scale factor should the company use?
* (From Unit 5, Lesson 7.)



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